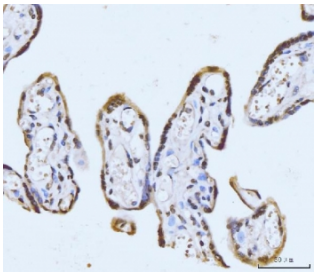
GHITM Antibody / MICS1 (RQ6633)

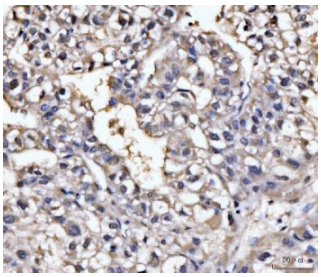
Catalog No.	Formulation	Size
RQ6633	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

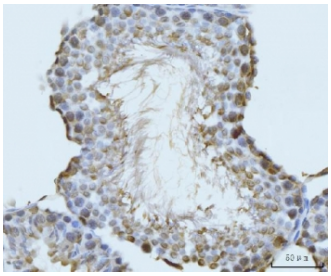
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q9H3K2
Localization	Cytoplasmic
Applications	Western Blot : 1-2ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml Immunofluorescence (FFPE) : 5ug/ml Flow Cytometry : 1-3ug/million cells Direct ELISA : 0.1-0.5ug/ml
Limitations	This GHITM antibody is available for research use only.



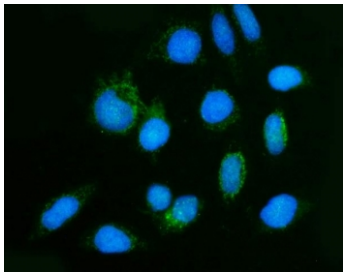
Immunohistochemistry of GHITM / MICS1 in human placental tissue. Formalin-fixed, paraffin-embedded human placental tissue stained with GHITM antibody shows cytoplasmic staining in trophoblastic cells lining chorionic villi, with minimal signal in surrounding stromal components. Antigen retrieval was performed by boiling tissue sections in EDTA buffer, pH 8.0, for 20 minutes, followed by cooling prior to immunostaining.



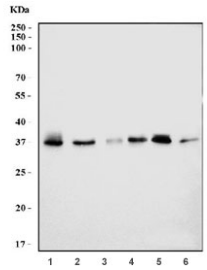
IHC staining of FFPE human liver cancer tissue with GHITM antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



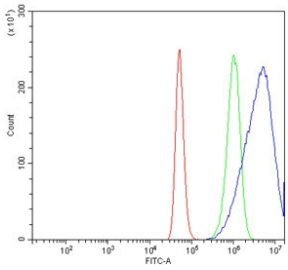
IHC staining of FFPE rat testis tissue with GHITM antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Immunofluorescent staining of FFPE human Hep3B cells with GHITM antibody (green) and DAPI nuclear stain (blue). HIER: steam section in pH6 citrate buffer for 20 min.



Western blot testing of 1) human HeLa, 2) human 293T, 3) human SH-SY5Y, 4) rat testis, 5) mouse testis and 6) mouse liver tissue lysate with GHITM antibody. Predicted molecular weight: ~37 kDa.



Flow cytometry testing of human a431 cells with GHITM antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= GHITM antibody.

Description

GHITM / MICS1 antibody recognizes Growth hormone inducible transmembrane protein, a mitochondrial inner membrane protein also widely referred to as Mitochondrial morphology and cristae structure protein 1. GHITM is an evolutionarily conserved protein that localizes predominantly to the inner mitochondrial membrane, where it contributes to maintenance of mitochondrial architecture and organization of cristae membranes. Its membrane-spanning nature and strategic localization position GHITM as an important structural component of mitochondrial integrity.

Growth hormone inducible transmembrane protein was originally identified as a gene responsive to growth hormone signaling, but subsequent studies have expanded its biological relevance to mitochondrial structure and function. MICS1

has been implicated in regulation of cristae morphology, mitochondrial ion homeostasis, and preservation of membrane potential. These roles are critical for efficient oxidative phosphorylation and overall mitochondrial performance, particularly in metabolically active cells.

GHITM is expressed across a broad range of tissues, reflecting the universal requirement for intact mitochondrial structure in eukaryotic cells. At the subcellular level, MICS1 localizes to mitochondria and is associated with inner membrane organization rather than outer membrane dynamics. Use of a GHITM antibody therefore supports studies focused on mitochondrial morphology, bioenergetics, and organelle stability under physiological and stress conditions.

Altered expression or functional disruption of GHITM has been examined in the context of apoptosis, mitochondrial stress responses, and disease-associated mitochondrial dysfunction. Because mitochondrial cristae remodeling is closely linked to apoptotic signaling and metabolic adaptation, GHITM has attracted interest in research areas spanning cancer biology, neurobiology, and metabolic disorders. Detection of MICS1 enables investigation of mitochondrial structural changes that accompany cellular stress or pathological states.

GHITM Antibody / MICS1 is designed to detect GHITM in research applications. Analysis of GHITM expression and localization provides insight into mitochondrial inner membrane organization and its contribution to cellular homeostasis. Overall, growth hormone inducible transmembrane protein remains a key mitochondrial protein for studies examining cristae structure, mitochondrial dynamics, and bioenergetic regulation.

Application Notes

Optimal dilution of the GHITM antibody should be determined by the researcher.

Immunogen

Recombinant human protein (amino acids M1-K345) was used as the immunogen for the GHITM antibody.

Storage

After reconstitution, the GHITM antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.